National Institute of Environmental Health Sciences

Q fever in The Netherlands: The role of local environmental conditions

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Abstract:

The Netherlands is facing a Q fever epidemic in which dairy goats are implicated. People living close to an affected farm have an increased risk. However, no human cases were reported around a number of farms with serious Q fever problems. To assess the role of local environmental conditions which may add to the transmission or risk of Q fever, we gathered datasets on vegetation, land use, soil characteristics, and weather conditions in 5 km areas around infected farms. Areas without transmission had a higher vegetation density and relatively shallow groundwater conditions. Vegetation and soil moisture are relevant factors in the transmission of Coxiella burnetii from infected farms to humans, by reducing the amount of dust available for dispersion of the bacteria. The findings suggest that intensive goat and sheep husbandry should be avoided in areas that are characterized by a combination of arable land with deep groundwater and little vegetation.

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Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Meteorological Factors, Solar Radiation, Temperature

Geographic Feature:

resource focuses on specific type of geography

Rural

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Europe

European Region/Country: European Country

Other European Country : netherlands

Health Impact:

specification of health effect or disease related to climate change exposure

Infectious Disease

Infectious Disease: Zoonotic Disease

Zoonotic Disease: Other Zoonotic Disease

Zoonotic Disease (other): Q fever

Resource Type: ☑

format or standard characteristic of resource

Research Article

Timescale: ☑

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment: ☑

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content